

that between the 16th and 26th of August mention is made of their occurrence.

— *SOMATERIA SPECTABILIS*.

A large flock of King Eiders were seen on the 9th of June, and others were seen on the 14th. A pair were shot on the 17th, and others were seen on the 20th and 21st. On the 3rd of July a nest with three eggs was found, and between the 20th and the 26th flocks of females were seen.

— *FULIGULA GLACIALIS*.

Long-tailed Ducks were heard on the 5th of June, but do not appear to have been seen until the 20th. They were occasionally observed for some weeks; and between the 16th and 26th of August they appeared in large flocks.

ANAS FORMOSA.

The Baikal Teal is described as very rare; but a nest with four fresh eggs was taken on the 29th of June. The species is doubtfully recorded on the 3rd of July, but no example is said to have been obtained.

XXXVI.—*Critical Notes on the Procellariidæ*.

By OSBERT SALVIN, M.A., F.R.S., &c.

IN the first volume of the late Mr. G. Dawson Rowley's 'Ornithological Miscellany' I published two articles on the Procellariidæ under the above given title. I now propose to continue the series, with a view to preparing the ground for the completion of a long-promised Monograph of the family. The present paper has been based chiefly on an examination of some of the specimens brought to England by Sir Walter Buller from New Zealand, the determination of which was necessary for the second edition of his 'Birds of New Zealand,' now in course of issue.

Some other specimens have also been examined, as will be seen from the following notes. The arrangement of the series of specimens in the British Museum, and the incorporation with it of Gould's, Mr. Seebohm's, and our own col-

lections, has suggested most of these notes. Others will, I trust, follow, as obscure points relating to this family become clearer.

†*Puffinus chlororhynchus*.

Puffinus chlororhynchus, Less. *Traité d'Orn.* p. 612 (1831); Puch. *Rev. Zool.* 1850, p. 633; Sharpe, *Phil. Trans.* clxviii. p. 467; Ridgw. *Man. N. Am. Birds*, p. 62.

Thiellus chlororhynchus, Bonap. *Consp. Av.* ii. p. 200; Coues, *Pr. Ac. Nat. Sc. Phil.* 1864, p. 123.

Procellaria chlororhyncha, Schl. *Mus. Pays-Bas*, vi. *Procellariæ*, p. 25.

Puffinus sphenurus, Gould, *Ann. & Mag. N.* II. xiii. p. 365 (1844); id. *Birds Austr.* vii. pl. 58; Ridgw. *Man. N.-Am. Birds*, p. 62.

Thiellus sphenurus, Bp. et Coues, *ll. cc.*

Procellaria sphenura, Schl. *l. c.*

Lesson's type of his *P. chlororhynchus* in the Paris Museum was brought from Australia (Baie des Chiens Marins), so Pucheran tells us, by Quoy and Gaimard in 1820. Those writers who have attempted to separate it from *P. sphenurus* of Gould attribute to it a more western range, extending from Western Australia to the Mascarene Islands and the Cape of Good Hope, and reserve the name *P. sphenurus* for the more eastern bird, giving its range "Australian Seas." Gould's types of *P. sphenurus*, however, came from Houtmann's Abrolhos, off the coast of W. Australia, so that the difference of habitat breaks down. I have compared specimens from the Mascarene Islands (Mauritius and Rodriguez), Raine's Islet (N.W. Australia), Bird Islet (N. Australia), Norfolk I., Lord Howe's I., Eimeo (Society Is.), and New Zealand, and fail to see how any separation can be maintained. The Mascarene birds have perhaps a rather stouter bill, the colour of which in the skin is more of a fleshy yellow; but these differences seem to me to be of little importance, as intermediate specimens occur. The slight difference in size is not more than occurs in most birds having so wide a range. Gould's figure represents a bird with a dark bill, but his

description gives it as "reddish fleshy brown, darker on the culmen and tip."

We have two skins said to have come from New Zealand, where its occurrence, at least on the shores of the North Island, can hardly fail to be established.

Both the following species belong to this section of *Puffinus*, which may be distinguished by the long cuneate tails of all its members.

PUFFINUS CUNEATUS, sp. nov.

Supra fuliginosus; capite summo, dorso postico, tectricibus alarum minoribus et remigibus saturatoribus, plumis dorsi antici pallide fuliginoso limbatis, tectricibus alarum majoribus ad apices griseo tinctis: subtus medialiter albidus; gulæ et cervicis lateribus griseis, pectore et hypochondriis quoque hujus coloris, ventre imo et crisso omnino obscurioribus, tectricibus alarum inferioribus albidis griseo vix irroratis, cauda cuneata nigra: rostro obscure plumbeo, pedibus flavis extrorsum obscurioribus: long. tota 17·0, alæ 11·8, caudæ rectr. med. 5·3, lat. 3·65, rostri a rictu 2·2, a naribus 1·2, culminis nudi 1·6, tarsi 1·85, dig. med. cum ungue 2·32.

Hab. Insulis Krusenstern (*H. J. Snow*).

Mus. nostr. et II. Seeböhm, nunc in Mus. Brit.

In general coloration this species resembles *P. creatopus*, Coues, but it may be readily distinguished by its smaller darker bill, smaller feet, and especially by its longer more cuneate tail, the latter character placing it along with *P. chlororhynchus* and *P. bulleri*, described below, in Gloger's supposed genus or section "*Thiellus*" (see Coues, Pr. Ac. Nat. Sci. Phil. 1864, p. 122)*.

I have two specimens of this bird before me, both obtained in the spring of 1883 by Mr. H. J. Snow, of Yokohama†.

* The name *Thyellus* was proposed by Gloger in Froriep's 'Notizen, xvi. (1827) p. 279, simply as a substitute for *Puffinus*. Bonaparte (Consp. Av. ii. p. 200) altered the spelling, and restricted it to this section of *Puffinus*, and in so doing he was followed by Coues.

† The Krusenstern Islands here referred to are apparently the small cluster of islands so named by Kotzebue, which form part of the Marshall Group, and are situated in about lat. 10° 17' N., long. 190° W. The islands extend over an area of 15 miles long by 5 wide. The native name

In several respects this bird conforms to Latham's description of his White-breasted Petrel *, said to inhabit Turtle and Christmas Islands; but there are differences which make it undesirable to make another, and probably fruitless, attempt to identify this name, which has already been applied to *Æstrelata neglecta* of the Kermadec Islands. Turtle Island is probably Vatoa or Turtle I., one of the Fiji group; and Christmas I. the island of that name south of the Sandwich Islands.

PUFFINUS BULLERI, sp. nov.

Supra saturate griseus, capite toto supra cum cervice postica fuliginoso-nigris, loris et regione ophthalmica vix griseo intermixtis: tectricibus alarum minoribus fuliginoso-nigris, majoribus externe griseis et extrorsum albo limbatis; remigibus fuliginoso-nigris, pogonio interno bitriente interna nigra; pagina alarum inferiore et corpore subtus niveis, crisso utrinque schistaceo limbato: cauda cuneata nigricante, rectricibus lateralibus griseo tinctis: rostro obscure plumbeo, mandibula infra carnea; pedibus externe corylinis, interne flavis: longit. tota (circ.) 16·5, alæ 11·3, caudæ rectr. med. 5·2, rectr. lat. 3·5, rostri a rictu 2·6, a naribus 1·3, culminis nudi 17·5, tarsi 2·0.

Hab. New Zealand (*W. L. Buller*).

Mus. W. L. Buller et nostr.

This distinct species appears to belong to the section of the genus possessing long cuneate tails, of which *P. chlororhynchus* is the best-known species. Its coloration at once makes it easily recognizable, no other species having a grey mantle, with which the dark head and dark wings are in striking contrast, this style of coloration being characteristic of many species of *Æstrelata*.

The description is based upon two specimens, one of them obtained by Sir Walter Buller in New Zealand. The other

of the largest is Ailuk. There is a Krusenstern Rock lying to the westward of the Sandwich Islands; but this can hardly be the place whence these Petrels were obtained, as the sea is described as only breaking in one spot. Another Krusenstern Island lies in the narrowest part of Behring's Straits.

* *White-breasted Petrel*, Lath. Gen. Syn. vi. p. 400.

Procellaria alba, Gm. Syst. Nat. i. p. 565; Lath. Ind. Orn. ii. p. 822.

we purchased some time ago from Mr. Whitely of Woolwich, who stated that he had received it from New Zealand.

†**PUFFINUS GRISEUS.**

Nectris fuliginosa, Solander, MS. ; Parkinson, Icon. ined. No. 23 (nec *Puffinus fuliginosus*, Kuhl).

Procellaria fuliginosa, G. Forst. Icon. ined. No. 94.

Grey Petrel, Lath. Gen. Syn. vi. p. 399.

Procellaria grisea, Gm. Syst. Nat. i. p. 564 (nec Kuhl).

Puffinus griseus, Finsch, J. f. Orn. 1874, p. 209 ; Salv. in Rowley's Orn. Misc. i. p. 236 ; Dresser, B. Eur. viii. pl. 616.

Puffinus fuliginosus, A. Strickl. (mot. propr.!), P. Z. S. 1832, p. 129.

Puffinus tristis, J. R. Forst. Descr. An. p. 23 ; Buller, B. N. Zeal. p. 315.

Puffinus amaurosoma, Coues, Pr. Ac. Nat. Sc. Phil. 1864, p. 124.

Puffinus stricklandi, Ridgw. Man. N. Am. B. p. 61.

There is now a large series of skins of this bird in the British Museum ; and I have taken the opportunity of comparing birds from the North Atlantic with others from the Pacific Ocean, and have failed to see how two species can be set up as proposed by Mr. Ridgway. In his recently published 'Manual' it will be seen that dimensions do not afford any diagnostic characters, and that the only difference to be detected is that the under wing-coverts in the Atlantic bird are grey, transversely mottled with white at the tips, whereas in *P. griseus* they are white, transversely mottled with grey at the tips. A comparison of specimens shows how trivial this difference is.

In the Pacific Ocean this species occurs as far north as the Kurile Islands, whence specimens have been sent by Mr. H. J. Snow.

†**PUFFINUS CARNEIPES.**

Puffinus carneipes, Gould, P. Z. S. 1844, p. 57 ; id. Birds Austr. vii. pl. 57 ; Seebohm, Ibis, 1884, p. 176 ; Ridgw. Man. N. Am. Birds, p. 62.

Nectris carneipes, Coues, Pr. Ac. Nat. Sc. Phil. 1864, p. 126.

Sir W. Buller's collection contains a specimen which appears to me to belong undoubtedly to this species; the only other examples which I have seen are from Hakodate (*Henson*), in Northern Japan. The latter only differ in being in rather older, and in more worn plumage, the New Zealand bird being freshly moulted. These additional localities show that this bird has a much wider range than has hitherto been suspected. Gould's types came from Cape Leewin, S.W. Australia.

The bird is rare in collections, and we have considerable doubts as to the correct determination of those stated to be in the Leyden and other museums (cf. Schl. Mus. Pays-Bas, vi. *Procellariæ*, p. 26); the Leyden birds should, I believe, be referred to *Puffinus griseus* (Gm.).

+**PUFFINUS TENUIROSTRIS.**

Procellaria tenuirostris, Temm. Pl. Col. livr. 99 (1835).

Puffinus tenuirostris, Salvad. Orn. Pap. c Mol. iii. p. 462.

Puffinus brevicaudus, Brandt (1836); Gould, B. Austr. vii. p. 56; Buller, B. N. Zeal. p. 315.

It seems well established that *P. brevicaudus* of the Australian and New-Zealand Seas does not differ from *P. tenuirostris* of Japan. The latter name has priority (see Salvadori, *l. c.*).

+**PUFFINUS GAVIA.**

Procellaria gavia, Forst. Descr. An. p. 148 (1844).

Puffinus gavia, Buller, B. N. Zeal. p. 318.

Sir W. Buller's collection contains a specimen referred to this species, which is the first I have seen answering to Forster's description. It has a general resemblance to *P. opisthomelas*, Coues, as regards the colour of its plumage, but may at once be distinguished by its pure white under tail-coverts.

Of *P. opisthomelas* I have before me a careful drawing prepared from one of the types obtained off the coast of Lower California, and lent me by the authorities of the Smithsonian Institution.

In his recently published 'Manual of North American Birds,' p. 60, Mr. Ridgway calls this bird "the Black-vented Shearwater," a name which may still be retained for the bird of the Californian coasts when Dr. Coues's title, *P. opisthomelas*, is restored to it.

+PUFFINUS OBSCURUS.

Dusky Petrel, Lath. Gen. Syn. vi. p. 416.

Procellaria obscura, Gm. Syst. Nat. i. p. 559; Lath. Ind. Orn. ii. p. 828.

A skin, said to have come from New Zealand, in our collection belongs to the larger form of this species. It agrees with one from Manua, Samoa Islands, except that the crissum is white in the middle to its extremity, the sides alone being dusky. In the Samoa bird the central feathers of the crissum are dusky tipped with white. These differences can hardly be considered specific, seeing that considerable variation prevails in this respect when a large series of birds is examined. The smallest birds with the darkest crissum that I have seen are from the Pelew Islands.

+PUFFINUS ASSIMILIS.

Puffinus assimilis, Gould, P. Z. S. 1837, p. 186; id. B. Austr. vii. pl. 59.

Puffinus nugax, Solander, MS.; Gould, Handb. B. Austr. ii. p. 458; Coues, Proc. Ac. Nat. Sc. Phil. 1864, p. 141.

Gould's specimens were obtained on Norfolk I.; but he remarks that he saw numerous examples flying off the north-eastern end of New Zealand. J. MacGillivray found this species at Raoul I., one of the Kermadec Group, and Sir W. Buller has a specimen from Little Barrier I.

P. assimilis may at once be distinguished from *P. obscurus* by the colour of the primary quills, which are white for about two thirds of the outer portion of the inner web, except towards the tip.

CESTRELATA HERALDICA, sp. nov.

Supra fusca, dorsi plumis vix obscure griseo limbatis, fronte et genis albis fusco intermixtis; corpore subtus albo, pectore (anguste), cervicis lateribus et hypochondriis

cinereo irroratis, crisso quoque lateraliter obscure cinereo maculato; subalaribus plerumque nigricantibus, harum autem longissimis albis fusco terminatis; remigibus nigricantibus, rachidibus omnibus fuscis, pogonio interno bitriente interna ad basin alba; cauda nigricante, rectricibus triente basali albo; rostro nigro, pedibus flavis, digitis dimidio distali nigro: long. tota 14.0, alæ 11.0, caudæ rectr. med. 4.6, lat. 3.65, tarsi 1.4, dig. med. cum ungue 1.8, rostri a rictu 1.5.

Hab. Chesterfield Is., W. Pacific (*MacGillivray*).

Mus. Brit. et nostr.

We have long possessed a specimen of this bird, obtained in exchange from Gould, and there is another exactly like it in the British Museum. The latter was called by Gray *Procellaria phillipii*, he having identified it with the bird so named by himself, the basis of which is the Norfolk-Island Petrel of Phillip's 'Voyage to Botany Bay' (p. 161, pl.).

The colour of the feet and of the primaries justifies the reference of our specimens to Phillip's description; but the size (16 inches) and the colour make it more than doubtful if the latter really refers to the same bird. The figure represents a bird with a much longer, heavier bill, more like that of one of the *Æ. fuliginosa* group; indeed, were it not for the colour of the feet, I should have little hesitation in referring Phillip's bird to *Æ. solandi*, Gould.

The bird now described at first sight resembles *Æ. mollis* (Gould), but may readily be distinguished by its larger size, darker tail, and especially by having two thirds of the inner web of the primaries, as well as the longest coverts, white.

Both the specimens before me were obtained by John MacGillivray at the Chesterfield Islands, a small group lying a little to the north of west of New Caledonia.

† *ÆSTRELATA GULARIS*.

Procellaria gularis, Peale, U.S. Expl. Exp. Birds, p. 99.

Procellaria affinis, Buller, Man. B. New Zeal. p. 88.

A specimen of *P. affinis* submitted to me by Sir W. Buller agrees accurately with the description of *Æ. gularis*, and I have little doubt should bear that name.

ÆSTRELATA HYPOLEUCA, sp. nov.

Supra nigricans; interscapulio et uropygio cinereis plumis singulis pallide cinereo limbatis, vertice antico albo limbato, fronte, loris et corpore toto subtus pure albis, subalaribus albis margine alarum externo et plaga ad basin remigum nigricanti-fuscis, remigibus omnino nigris; cauda nigra ad basin alba; rostro nigro, pedibus flavis, digitis dimidio distali nigro: long. tota (circ.) 13·0, alæ 9·0, caudæ rectr. med. 4·65, lat. 3·2, rostri a rictu 1·4, tarsi 1·1, dig. med. cum ungue 1·4.

Hab. Krusenstern Is., N. Pacific (*H. J. Snow*).

Mus. Brit.

Obs. *Æ. torquata*, Macg., affinis, sed paulo major, cauda multo longiore distinguenda.

Mr. H. Seebohm has recently presented to the British Museum a single specimen of an *Æstrelata* obtained by Mr. H. J. Snow of Yokohama on the Krusenstern Is., in North Pacific Ocean, in the spring of 1883.

It belongs to the section of the genus having the whole of the inner web of the primaries black, and therefore is allied to *Æ. mollis* and *Æ. torquata*. It is considerably smaller than *Æ. mollis*, which, moreover, has the under wing-coverts black. *Æ. torquata* is its nearest ally, from which it differs in its rather larger size and much longer tail (that of *Æ. torquata* only measuring 3·8 inches, instead of 4·65). Moreover, the whole under surface of the body of *Æ. hypoleuca* is pure white, without a trace of the grey which prevails to a greater or less extent on the chest of *Æ. torquata* and sometimes overspreads the whole under surface except the throat.

Æstrelata torquata is a bird that seems to have been overlooked by recent writers on Procellariidæ. It was described by J. MacGillivray in 1860 (Zool. xviii. p. 7133) from specimens obtained by himself in Aneiteum, New Hebrides, in 1859. I have now four of these examples before me, bearing MacGillivray's labels. One was acquired by Schlegel for the Leyden Museum in 1861, and appears in his 'Mus. des Pays-Bas, Procellariidæ,' p. 13, as *Procellaria desolata*, Gm.! MacGillivray seems to have intended to name the species "*P. aeneiteumensis*," under which title it appears in Gray's

'Hand-list' (iii. p. 107); but there can be no doubt that the birds before me are referable to his *P. torquata*.

Besides the New Hebrides Group, this bird occurs in the Fiji Islands, whence we have specimens from Viti Levu, collected by Kleinschmidt in 1878.

ÆSTRELATA FULIGINOSA.

Procellaria fuliginosa, Kuhl; Buller, B. N. Zeal. p. 303, pl.

Procellaria macroptera, Gould, Handb. B. Austr. ii. p. 449.

Procellaria gouldi, Hutton; Buller, B. N. Zeal. p. 308.

Sir W. Buller's collection contains two specimens attributed to *P. gouldi*, Hutton. They agree with one in the British Museum from the coast of Tasmania, referred by Gould to *P. macroptera*, Smith. These I have compared with a large series from the South Atlantic Ocean, the Cape Seas, and elsewhere; and though they are rather larger and (especially the New-Zealand specimens) have stronger bills, I do not think the differences sufficiently constant or important to justify the recognition of more than one form of this widely ranging species. Some stress has been laid upon the greyness of the face of *P. gouldi*; but this character, too, fails, and a specimen before me with a short wing has the chin white.

XXXVII.—Notices of recent Ornithological Publications.

[Continued from p. 282.]

59. *Bartlett on Weavers and Finches.*

[A Monograph of the Weaver-Birds, Ploceidæ, and arboreal and terrestrial Finches, Fringillidæ. By Edward Bartlett. Parts I., II. 4to. Maidstone: 1888.]

We wish every success to Mr. Edward Bartlett in his efforts to realize a long-cherished plan to produce an illustrated Monograph of the Ploceidæ and Fringillidæ. The undertaking is arduous, as both families are numerous and contain many difficult genera. In the two parts already issued the following species are figured:—